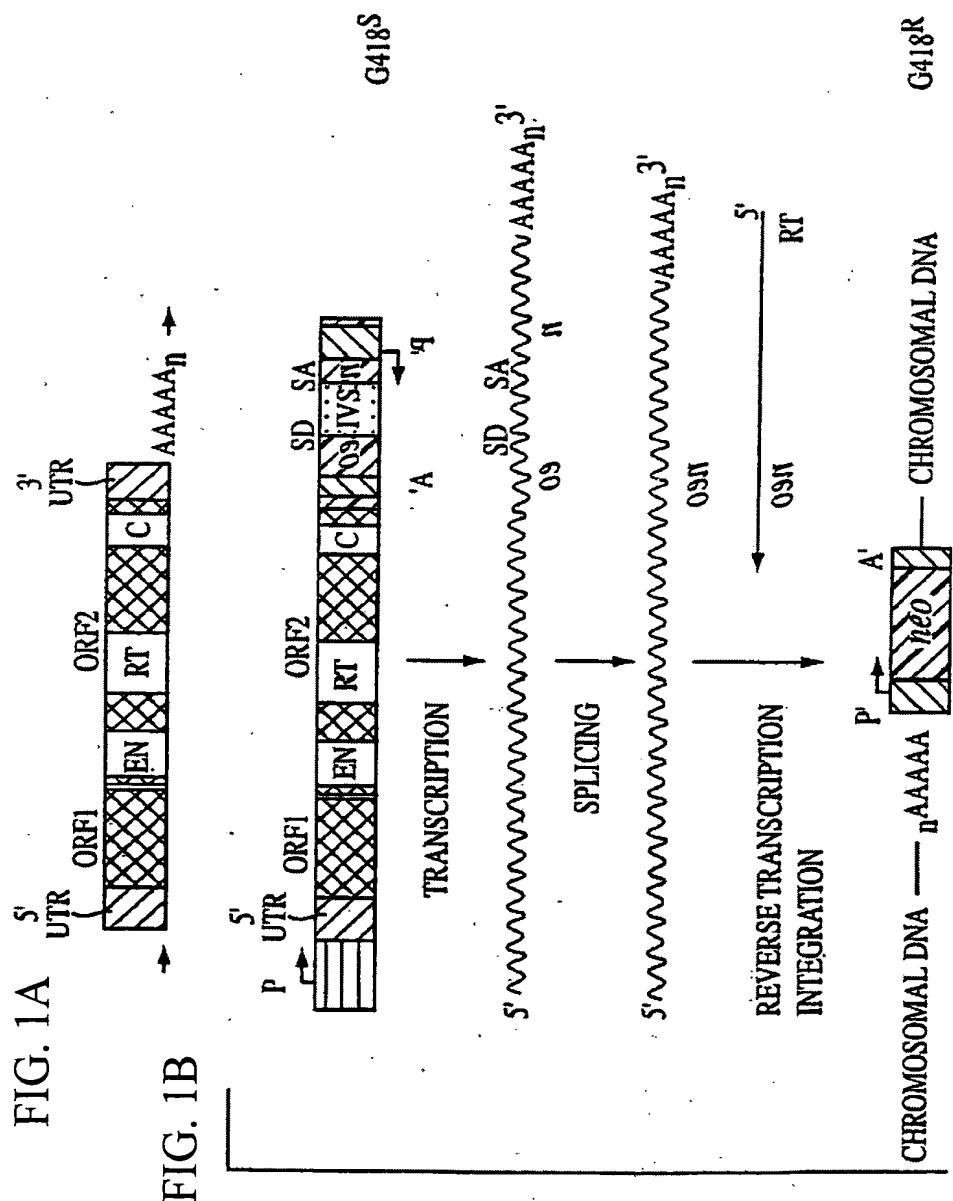
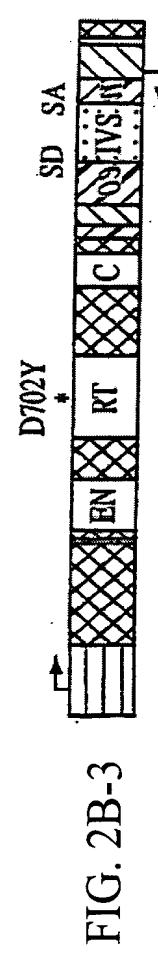
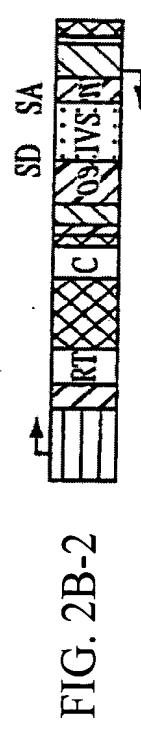
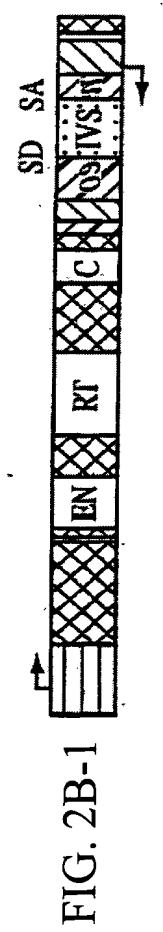
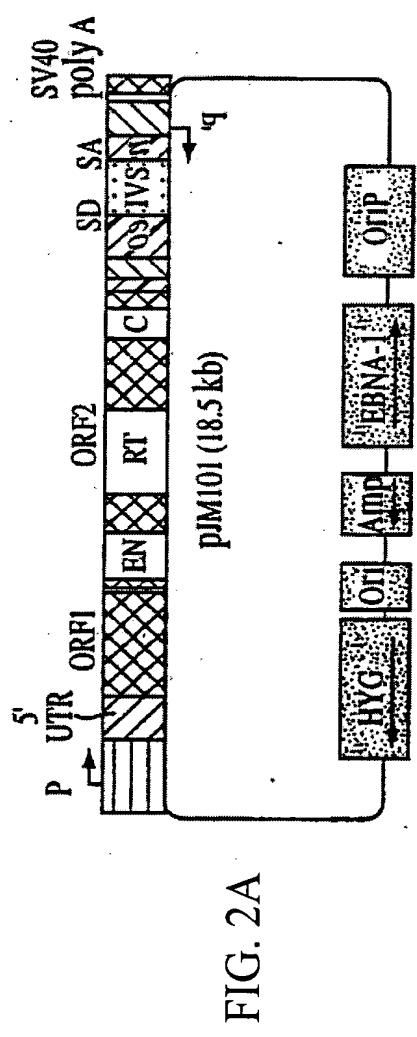




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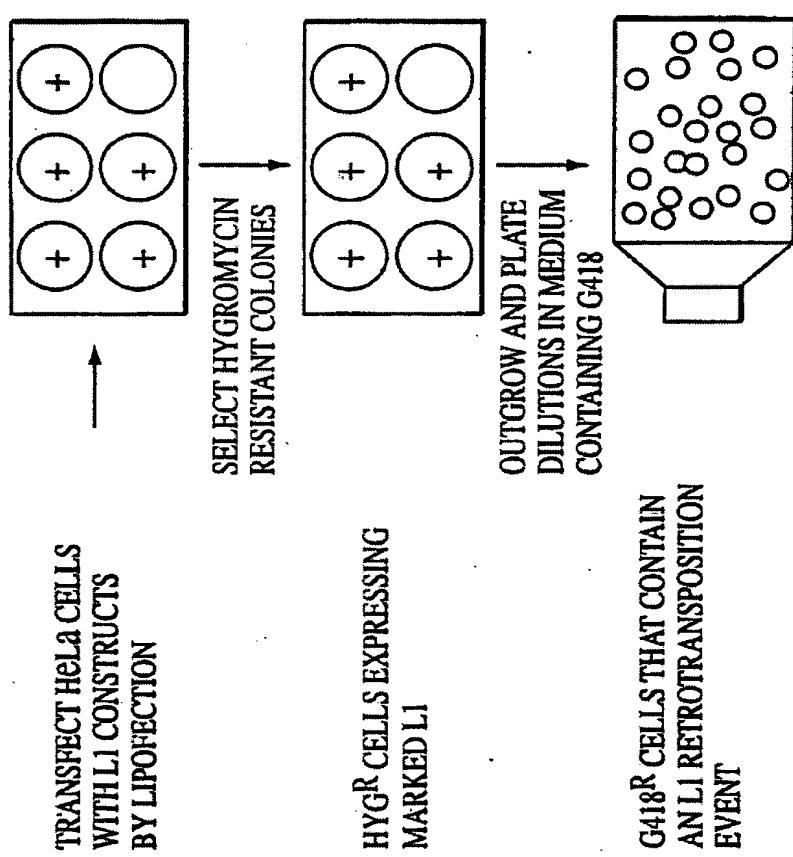


FIG. 3A

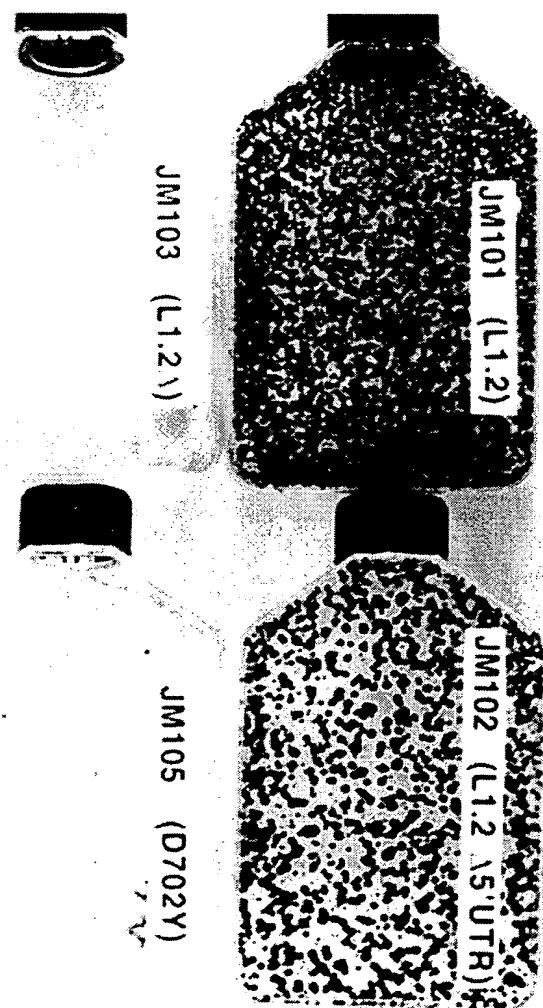


FIG. 3B

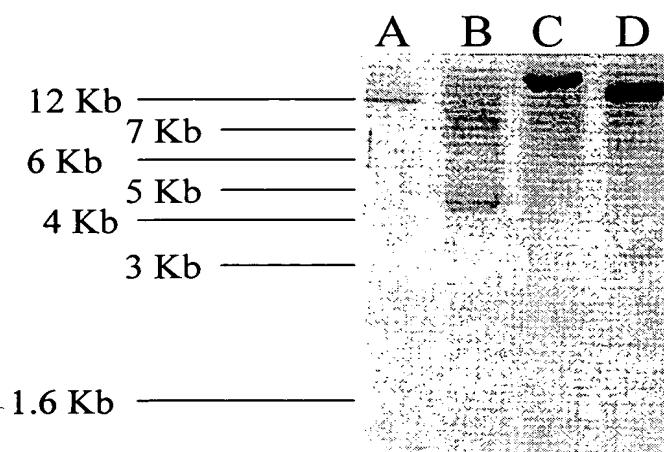


FIG. 4A

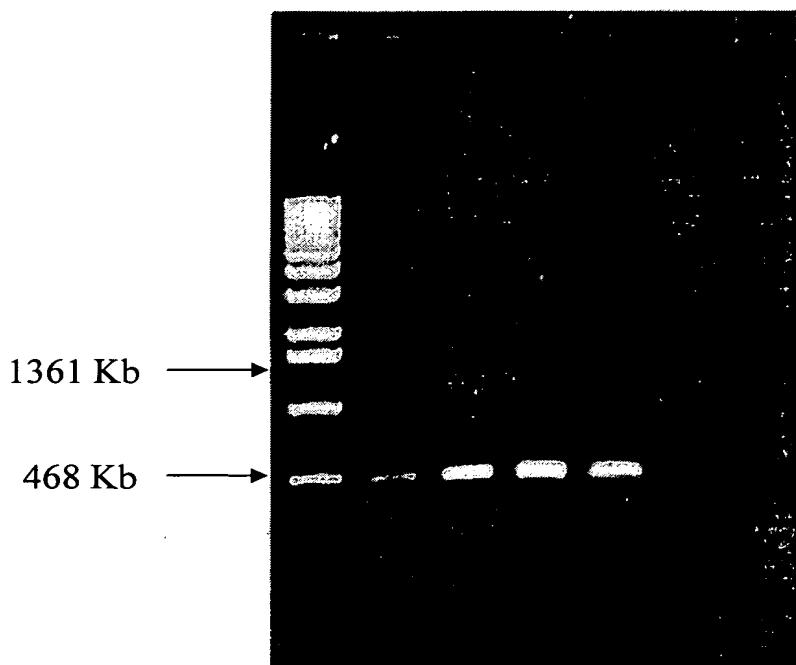


FIG. 4B-3

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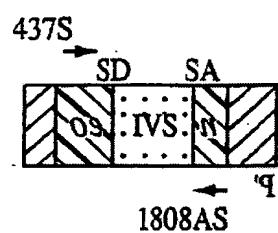


FIG. 4B-1

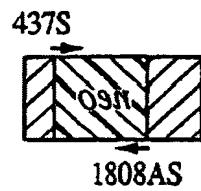


FIG. 4B-2

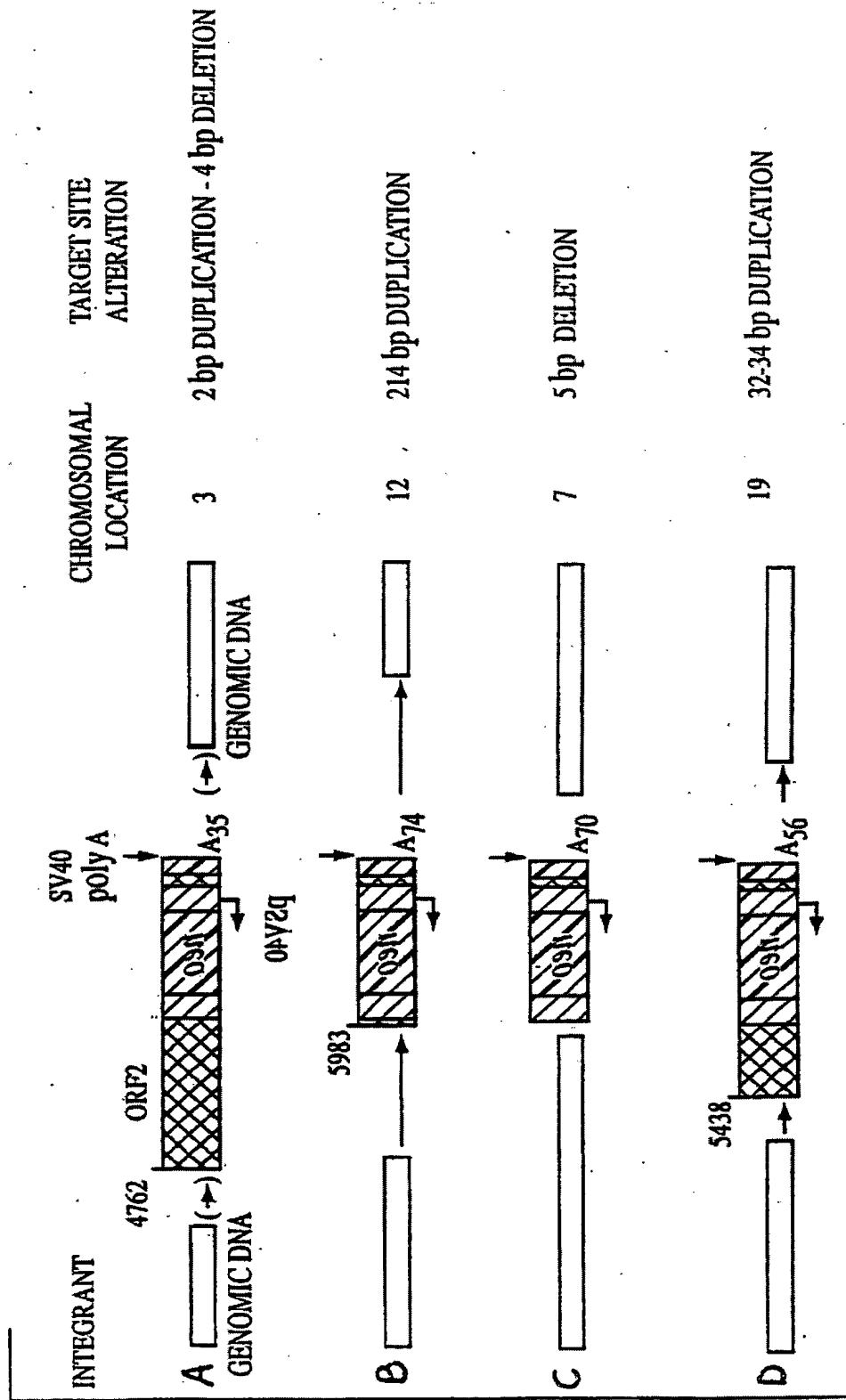


FIG. 5

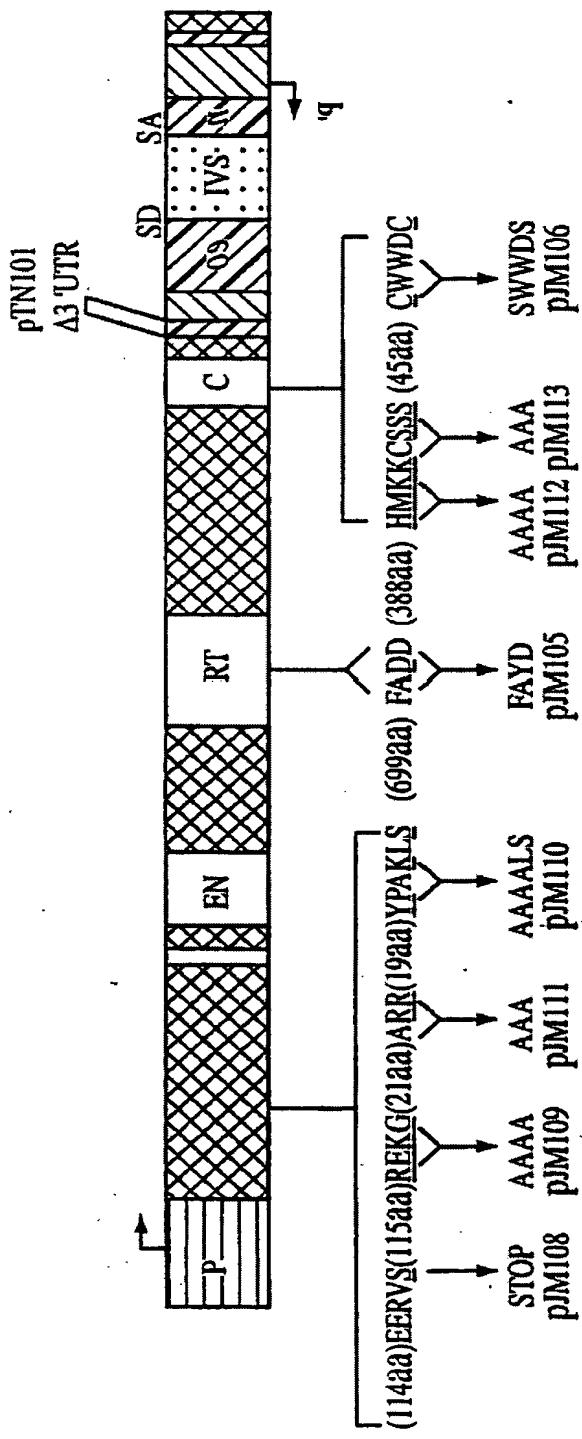


FIG. 6
ORF1 MUTANTS ORF2 MUTANTS

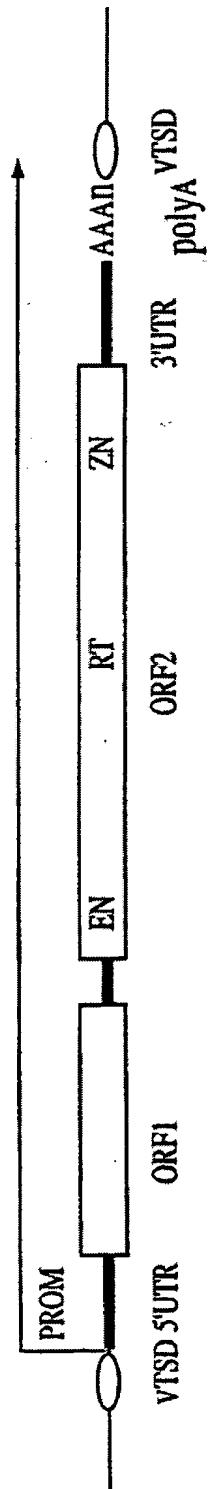


FIG. 7A

TADMVQLKILYWNVGKS	(13)	YDIVAIQEPEG	(22)	KGRAVIYVNK	(25)	PTTVSIYSPLT
L1TC	(35) DIEQNPGPIAVLQMNVSCL	(12)	ADIIAIQETW	(23)	GGGVAVLVRK	(31)	DLIVASAYMRPP
R1Bm	..MDIRPRLPIGGQINLGGA	(15)	LDIVLVQEQQY	(13)	KAGGVYIRNRV	(22)	DLYMVSAYFQYSD
EDm	....IMATLFIATWNANGV	(15)	IDVMLLSETH	(23)	HGGTAILIRN	(32)	LLTAAVYCPPRF
Gdm	....MQISLNNIVFWNANGL	(15)	IDILLVSESH	(24)	RGGAAMLIKS	(27)	DITVGAVYPRHEF
JOCK	...MTQOPTLKIQLWNARGL	(15)	IDVMLTTETH	(24)	RGGSAVIKS	(27)	TVTVAVYLPPAE
IDm	....MSLTVIQWNILKGY	(15)	PHIISLQETH	(23)	EGGVRILVHK	(24)	KLNIFSTYISPTK
L1Hs	.MTGSNSNHTITLNINGL	(17)	PSVCCIQETH	(25)	KAGVAILVSD	(27)	ELTILNIYAPNTG
Tx1	...MALSISTLNTNGC	(17)	YSVSFLOQETH	(25)	SCGVVTLESD	(27)	TYNLMMNVYAPTTG
Cin4	(10) GYYPMNTNCCIESWNVRGL	(17)	ATSVUCLQETK	(27)	GASGGGILIAC	(29)	VWDLTAVYGPQQE
Dre	(04) NKTIIKKNTIRIGVWNVQGS	(17)	LDAALLTETN	(27)	QGVSQIINT	(23)	QIKCTTIYAPAKS
APHs	(53) SPSGKPATLKICSWNVDGL	(16)	PDILCLQETK	(28)	GYSGVGILLSR	(27)	SFVLVTAYVPNAG
Retrotransposons		12-17	13-27	22-31	22-31	6-23	
AP endonucleases		15-17	23-28	27	27	27-28	
DNase I		.....MLKIAAFNIRTF	(20)	YDIVLIQEVR	(120)		
L1Hs mutants		↓		↓			
N14A				E43A			

FIG. 7 [FIG. 7B-1 | FIG. 7B-2]

FIG. 7B-1

(23) NILVAVGDLNLHHPDWD	(29) GE. PTRLGNATRGERDGTIDHAWLS	(16) GSDHCPQEIWVQV
(17) PLLLCGDFNMHHHQWE	(25) GE. ITTARGTRER...SCIDLTKW	(13) LSDHYVLTFTLHQ
(19) RVIICADTNAAHSPLWH	(35) GHLPTESTANGE...SYVDTLST	(14) SSDHRLIVFGVGG
(16) HFIAGGDDYNAKHTHWG	(26) PGSPTYWPSDLN. KLPDLIDFAVTK	(15) SSDHSPVLLIHLRR
(16) RFIAAGDFNAKHSSWG	(24) TGEPTHWPSDPS. KOPDLIDIAICK	(15) VSDHSAVNLLNI
(16) KFIAGGDDYNAKHAWWG	(24) TGEPTFYSYNPL. LTPSALDFFITC	(15) SSDHLPILAVLHA
(16) PSLITGDFNGWHPSWG	(24) DKSPTHFSTH...NTYSHIDLTLCS	(16) GSDHFPITTLFP
(18) HTLIMGDFNTPLSTLD	(34) TE. YTF..FSAPHHTYSKIDHIVG	(16) LSDHSAIKKLELRI
(21) ALIIGGDFNYTLDARD	(34) VA. FTYVVRVRDGHVSQSRIDRIYIS	(16) FSDHNCVSLRMSTI
(19) EWLILGDFNMIRRVE	(30) KK. FT. WSNEQDDPTMSRIDRLMAT	(18) TSDHSPLLMQGHS
(17) SDIITGDFNVDCSVDN	(19) NG. ITFPR. ....NKSTIDRVEVS	(17) KSDHNMVIIELKI
(27) PLVLCGDLNVAHEEID	(45) TF. WTYYMMNARSKNVGVWRLDYFLLS	(17) GSDHCPITLYLAL

21-35 13-18

44-50 17-21

DVMIMGDFNADC SYVT (31) CAYDRIIVVA (31) ISSDHYPVEVLT

↓
D145A

↑
D205G H230A

FIG. 7B-2

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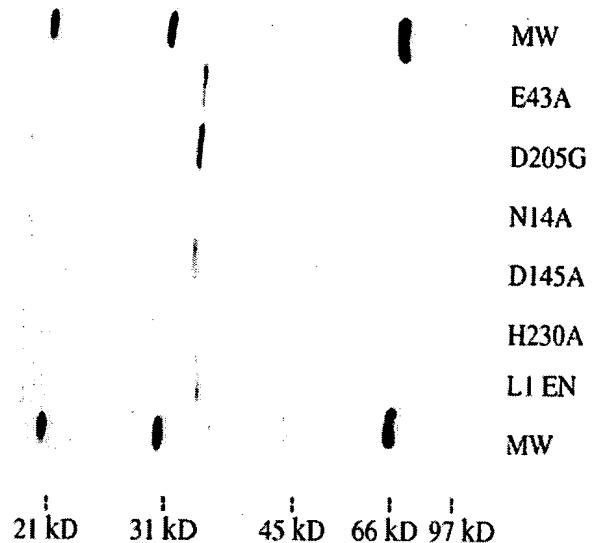


FIG. 8A

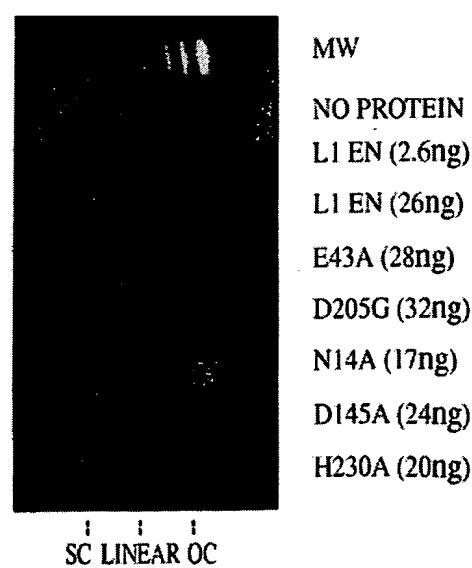


FIG. 8B

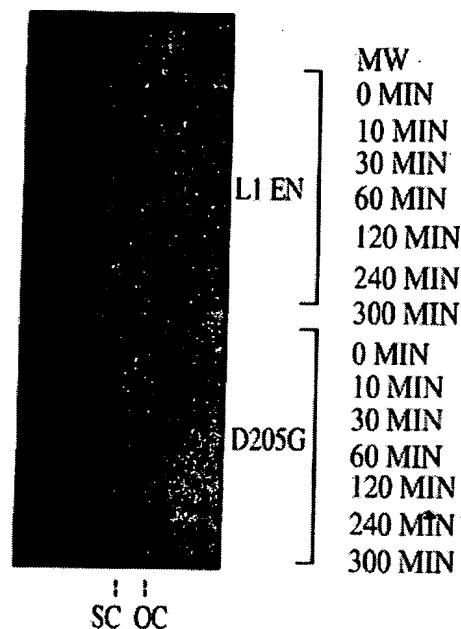


FIG. 8C

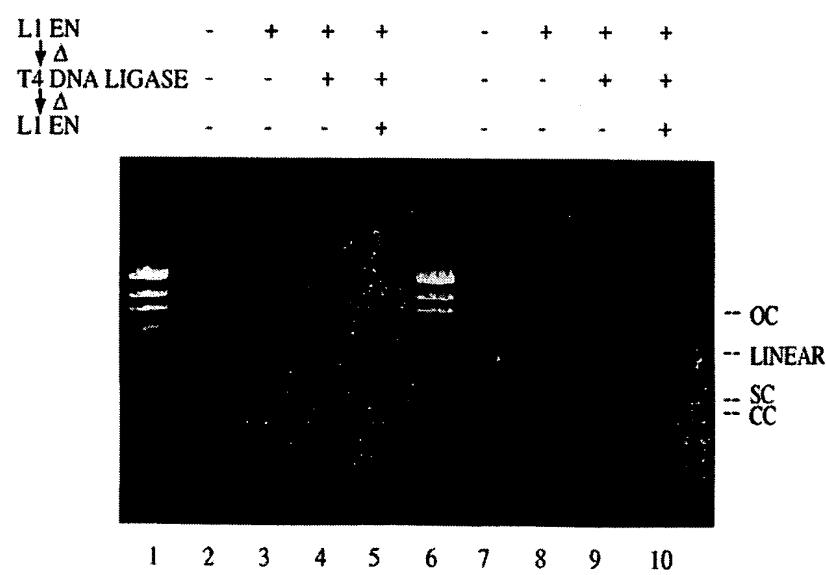


FIG. 9

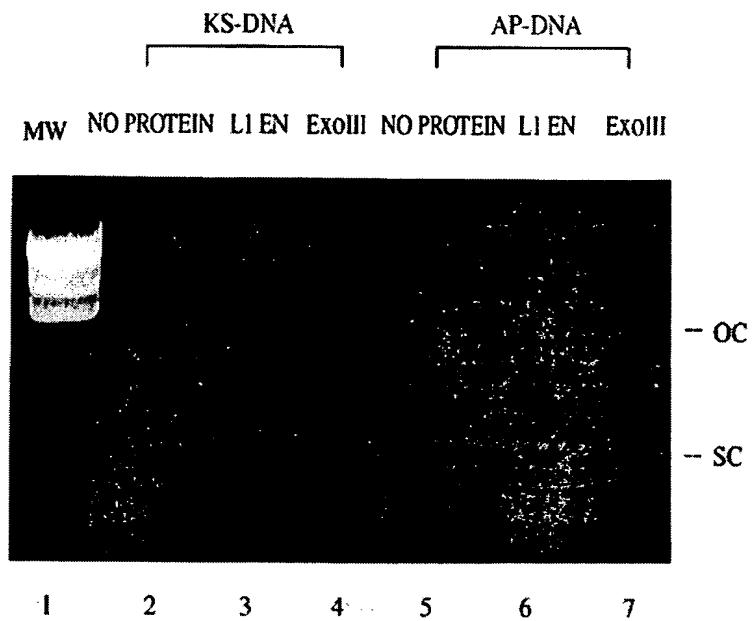


FIG. 10

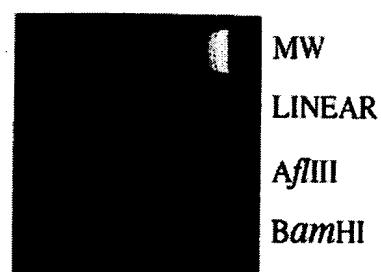


FIG. 11A

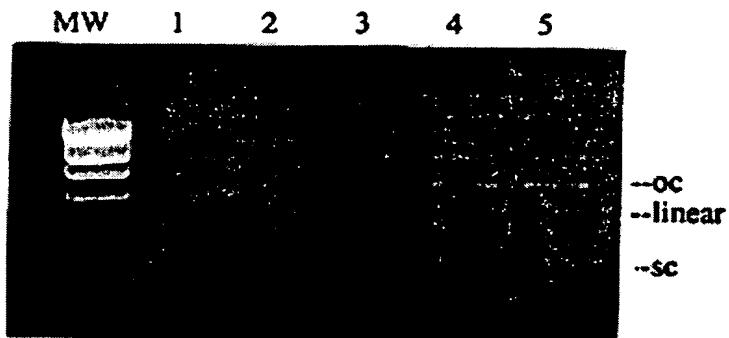


FIG. 11B

FIG. 11C-1

GATC 1 2 3 4 5



FIG. 11C-2

GATC 1 2 3 4 5



FIG. 11C-3

GATC 1 2 3 4 5



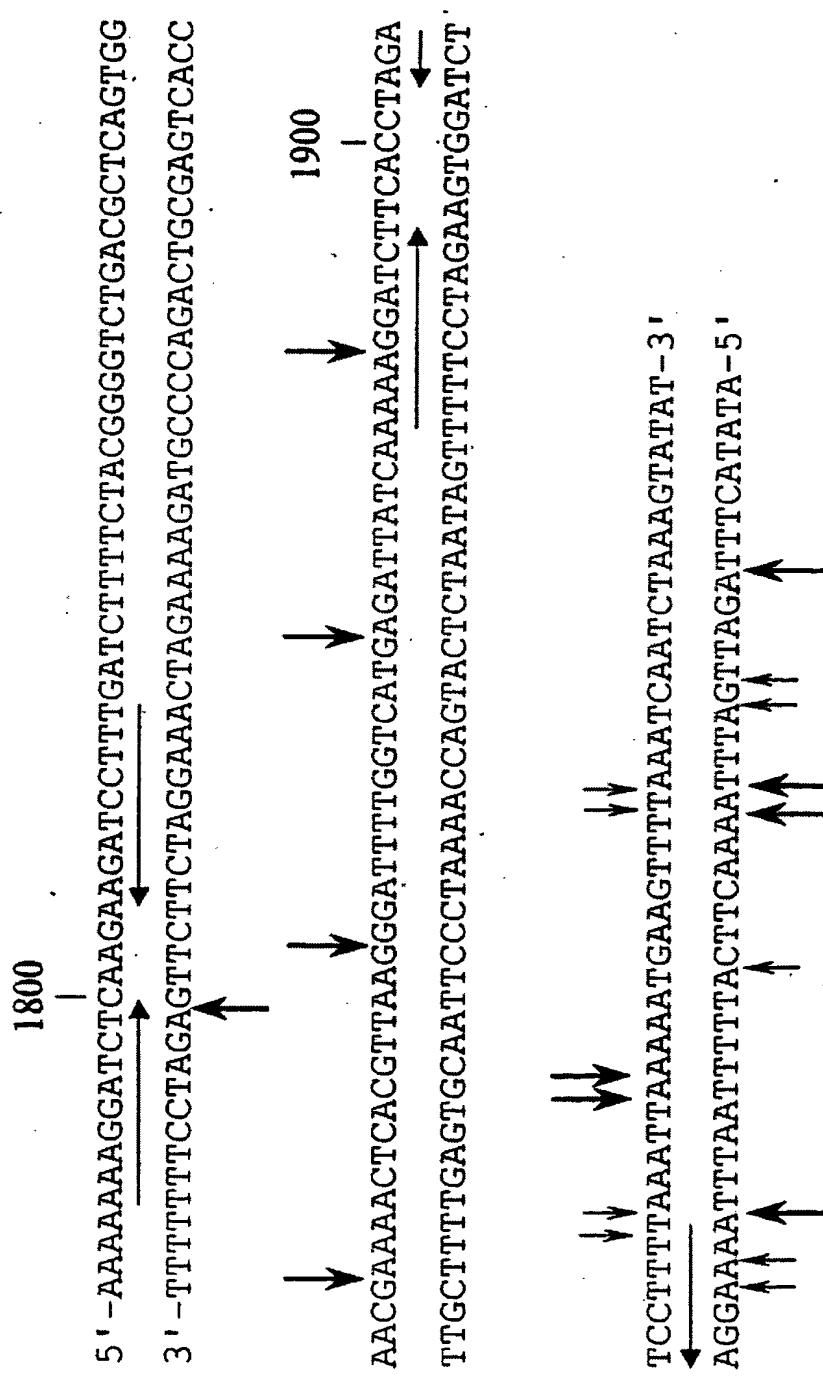


FIG. 11D

FIG. 12A
G A T C 1 2 3 4



FIG. 12B
G A T C 1 2 3 4

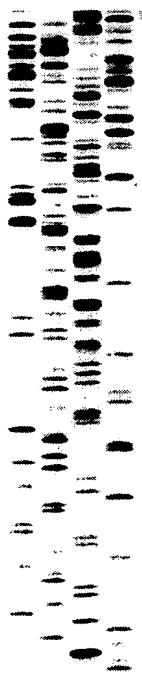
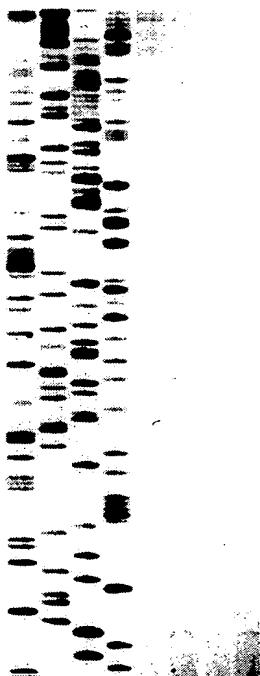


FIG. 12C
G A T C 1 2 3 4



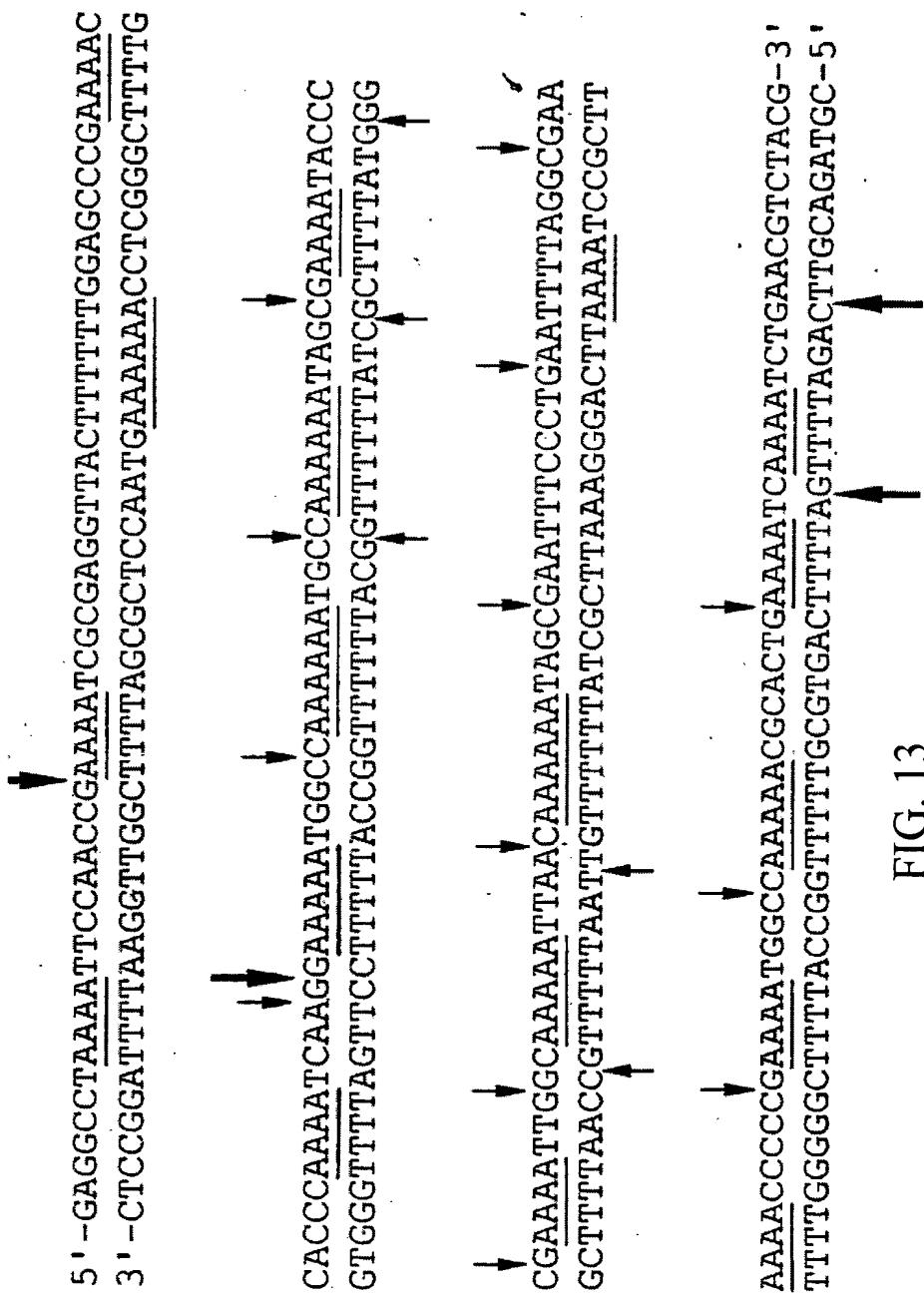


FIG. 13

C'TTTTaaaaatttgtt
GAAAAAtttttaacaaa

CTTTTaaaaatttt
GAAAAAttttaacaaa

CTTTTaaaaattttt
GAAAAA 

L1 ORF1 ORF2 XXXXXXXXAAAAAAA

HO-tttttt

FIG. 14A

AGGATCTcaagaag
TCCTAGAgttcttc
↑
AAGTTTaaatcaa
TTCAAAtttagtt
↑
GAAGTTTaaatca
CTTAAAatttagt
↑
TCCTTTaaattaa
AGGAAAtttaatt
↑
AGATAATcaaaaaaag
TCTATTAgtttttc
↑
TCAATCTaaagtat
AGTTAGAtttcata
↑

FIG. 14B-2

ATAATCTcatgacc
TATTAGAgtactgg
↑
CATTTTaatttaa
GTAAAAAttaaatt
↑
TCATTTtaattta
AGTAAAAattaaat
↑
AAAATCCcttaacg
TTT~~TAGG~~gaattgc
↑
AAGATCCttttga
TTCT~~AGG~~aaaaact
↑
GAGTTTcgttcca
CTC~~AAA~~gcaaggt
↑

FIG. 14B-1

ATTAATgtttcccttt
TAA[T]Aaaggaaaa

GCAGT Taaatcatctgctgct
CGTCAtttagatagacgacga

GGATTA^gaaataatg
CCTTAAtcttatac

JH-25

JUL-27

III-28

DYSTROPHIN

四

FIG. 14C

FIG. 14D

A TTTTTaATGTCAACTC
AAAAAAAttACAGTTGAG
↑

B TCTATTaaaaaggaaaaa (+207 bp)
AGATAA~~ttttt~~c~~ttttt~~
↑

D AAGAAATAaaatttctttt (+21 bp)
TTCTT~~A~~ttt~~aaa~~agaaaaa
↑

FIG. 14E

L1.2 AGTGGTgaaagtgggcattct
(LRE-1) TCACCA~~Acttt~~cacccgttaaga
↑

LRE-2 TGAGCTaagatcacacaccactg
ACTC~~G~~Attct~~tagt~~gtggtgac
↑

L1.1 GTGTTtaaacttagtaaca
 CACAAAttgtatcatatgt
 ↑

L1.3 TCTGATAagaataataaggaa
 AGACTAttcttattatcct
 ↑

L1.4 GTATTaaaaaa
 CATAAAttttt
 ↑

CGL1.1 ATATATAaggattaccagg
 TATATAttctccttaatggtc
 ↑

Z73497 ATACACaaatttggaccggaaaggagg
 TAGTGtttaacccctgggtttcttc
 ↑

FIG. 14F

FIG. 14G

L05637 T T T T T Taaaaaaa
AAAAAAAtttttt
 ↑
Z70758 T G A C T T a a g a a g t c c a t g a a t c c a
ACT**GAAT**tc tt c a g g t a c t t a g g t
 ↑
Z69721 T G C C T T a a g a a g g t c a a a g g c a g
AC**GGAA**tt ct t c c a g t t t c c g t c
 ↑
Z69648 A A A A A C a a a a a a a
TTTTT**G**tttttt
 ↑
Z68163 A A A A T T a a a a a t t g t g a t
TTTT**AA**tttttaactcta
 ↑
Z68339 G G G G T T a a g a t t g a a g a a t g
CCCC**A**ttctaaacttcttac
 ↑
Z70042 G G A T T C a a a a g g a g t t a t t g a t
CCT**AAG**ttttcctcaataacta
 ↑
Z68746 T C T T A T a a a a a g t a a a c t
AGAAT**A**tttttcattga
 ↑

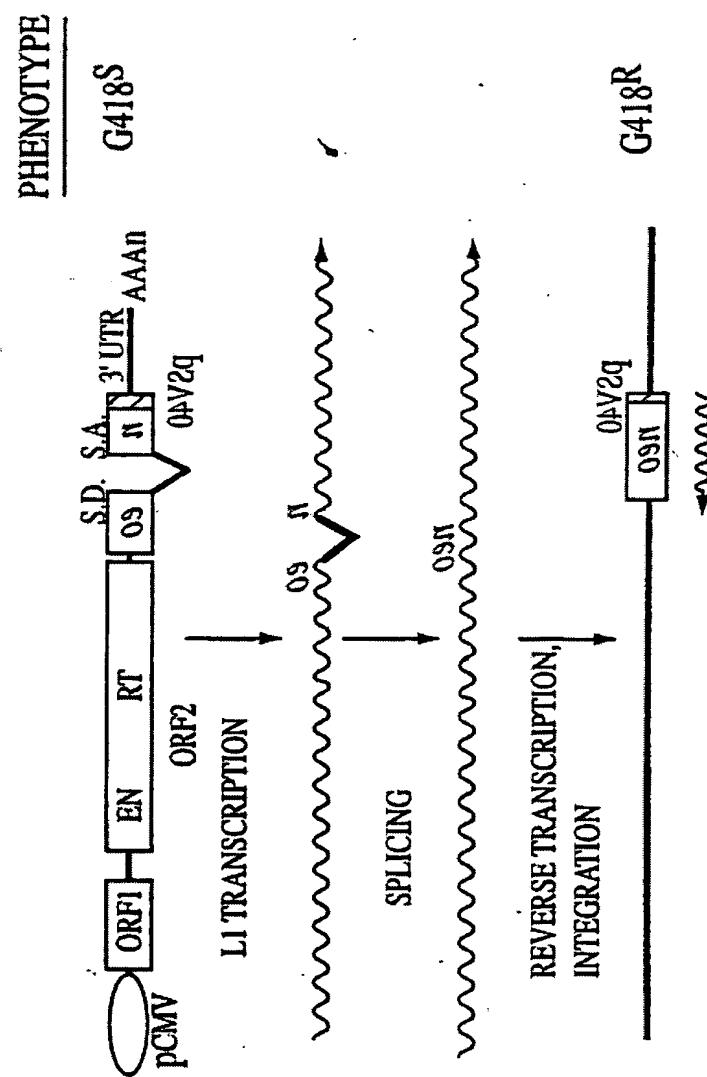


FIG. 15A

CONSTRUCT	TRANSPOSITION FREQUENCY (10^{-6} cell $^{-1}$)
WILDTYPE L1	335
D703Y (RT $^+$)	0.5
N14 (EN $^+$)	3.4
D145A (EN $^+$)	1.0
D205G (EN $^+$)	0.7
H230A (EN $^+$)	1.3

FIG. 15B

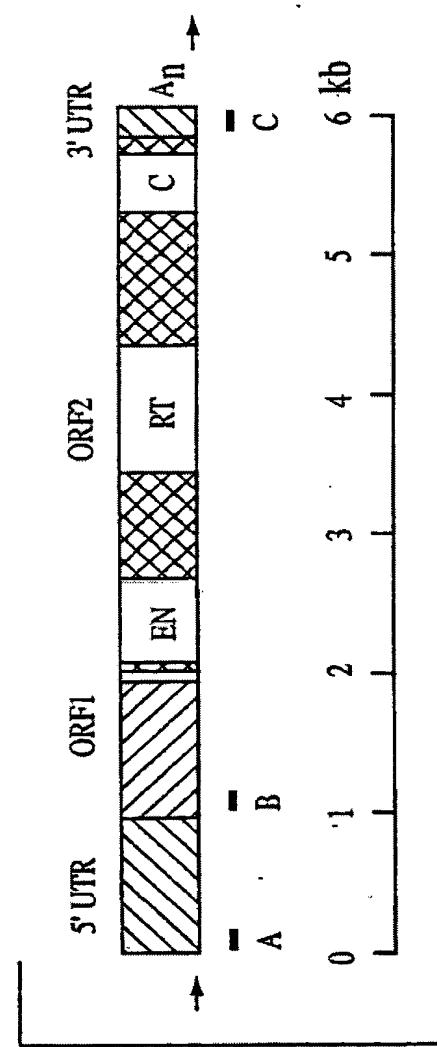


FIG. 16

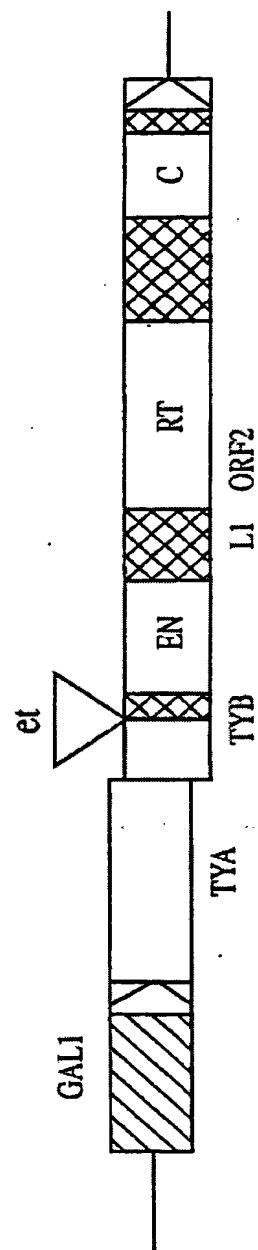


FIG. 17A

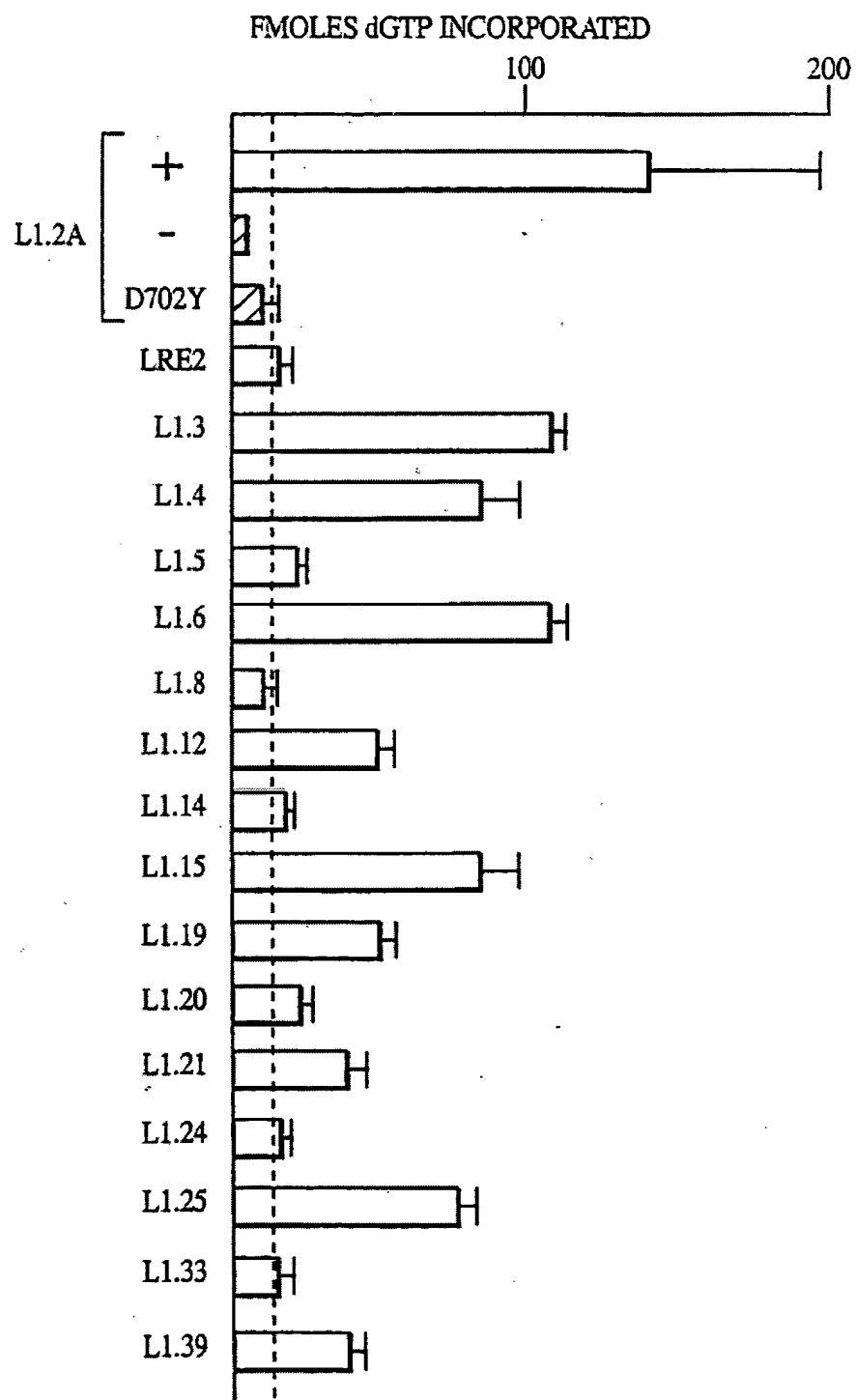


FIG. 17B

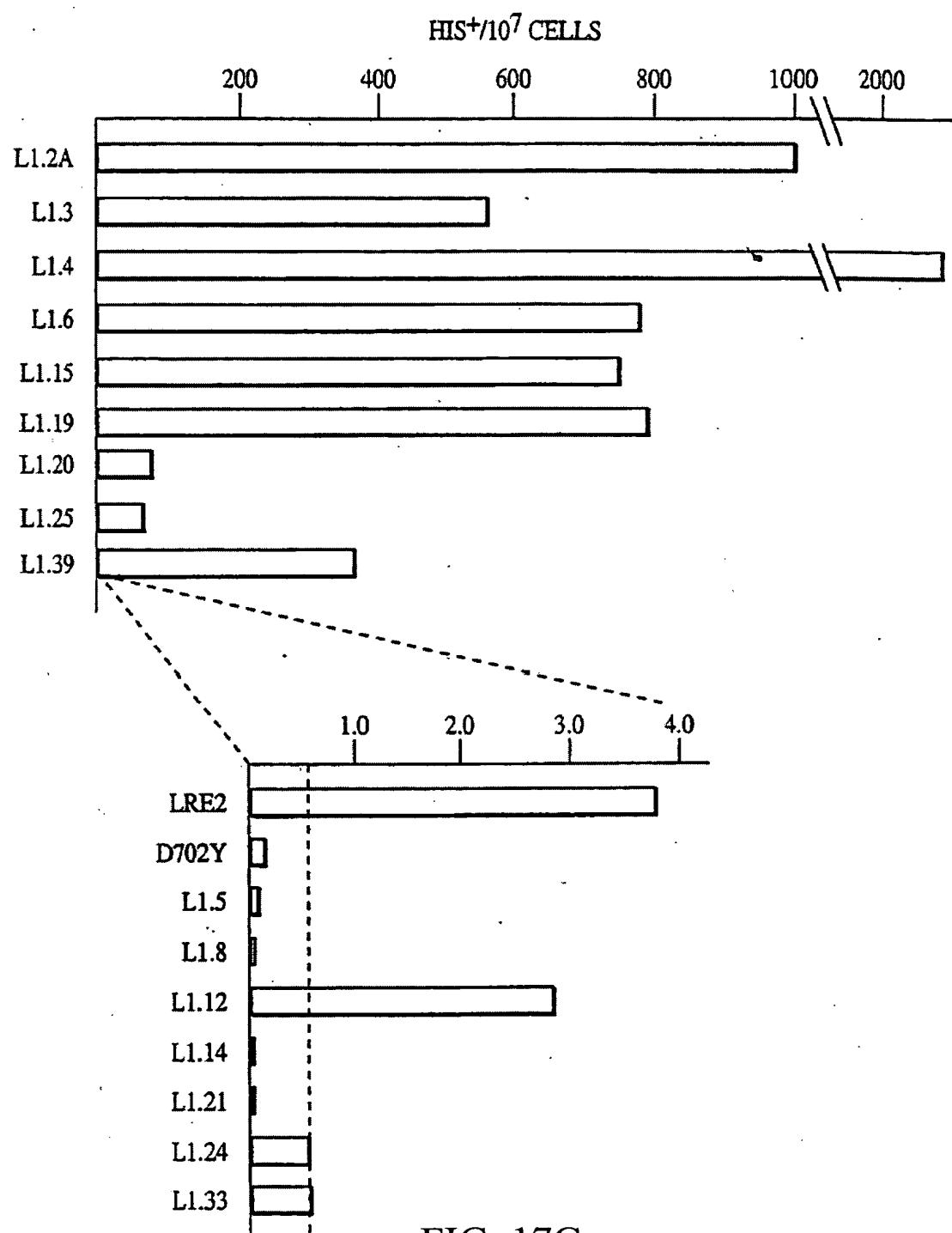


FIG. 17C

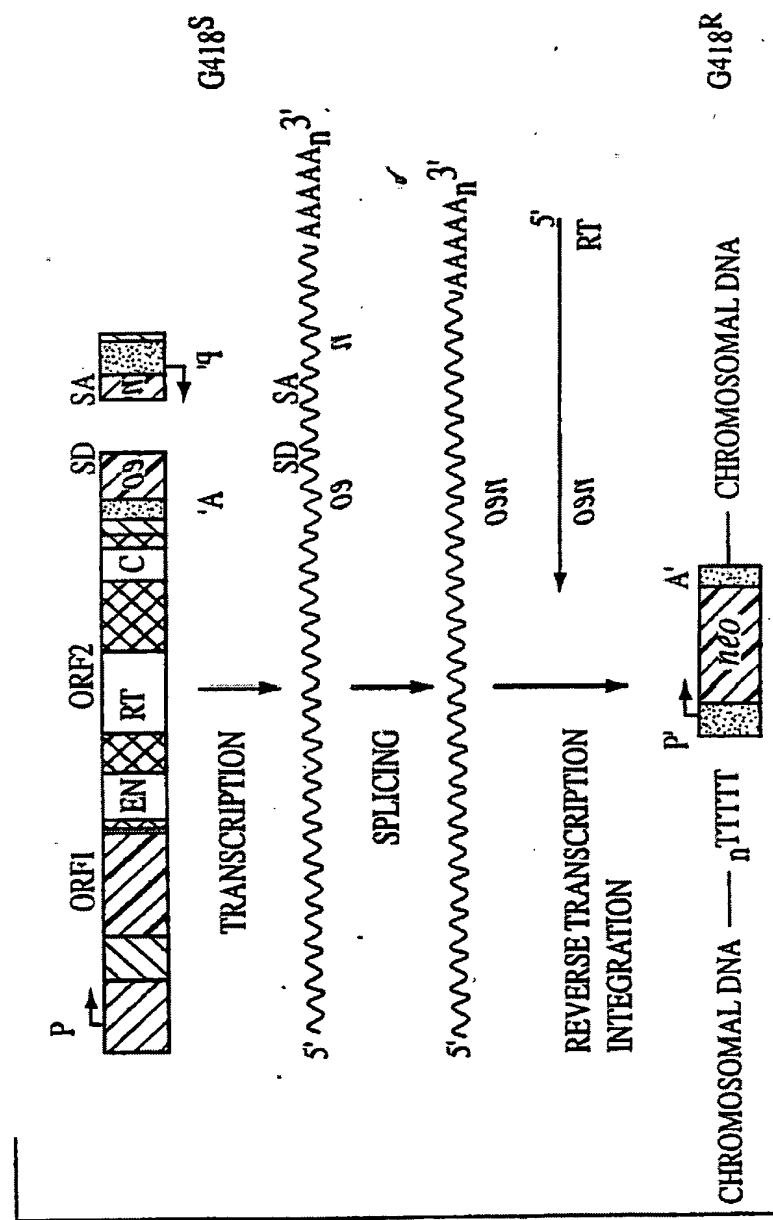


FIG. 18A

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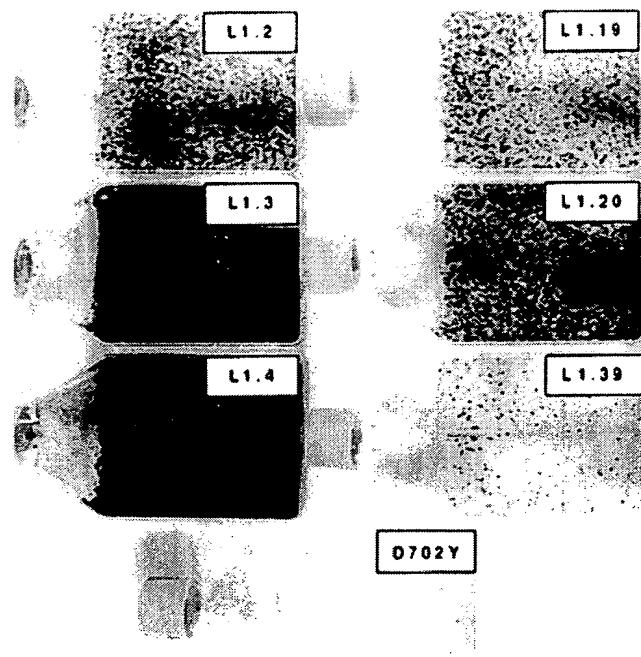


FIG. 18B

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